

Farhan Mir

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EDUCATION

Rutgers University

Bachelor of Science in Computer Science | Dean's List

New Brunswick, NJ

Expected May 2027

Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Software Design & Methodology, Data Science & Analytics, Computer Architecture, Discrete Mathematics

EXPERIENCE

Eudaimonic Inc.

Software Engineering Intern

Remote

Feb 2026 – Present

- Accelerated deployment by 40% by architecting a Go/TypeScript backend execution layer, abstracting 80+ API integrations into modular, strictly typed components.
- Achieved sub-100ms latency by designing a real-time state management engine, utilizing WebSockets for global session synchronization across distributed environments.
- Reduced developer setup time by 40% by building a RAG-powered LLM pipeline in Python to autonomously generate production-ready backend boilerplate.

ScarletSpots

Lead Software Engineer

New Brunswick, NJ

Jan 2026 – Present

- Achieved sub-100ms latency for live parking lot updates by engineering a push-based WebSocket architecture using FastAPI and a Redis pub/sub fan-out registry.
- Eliminated 100% of race conditions and negative-capacity anomalies during concurrent user sessions by implementing atomic PostgreSQL transactions via SQLAlchemy's async ORM.
- Engineered an asynchronous geofencing engine that automatically triggers parking sessions while the app is suspended, utilizing offline event sourcing to update the database pipeline and dispatch concurrent push notifications (FCM/APNs).
- Reduced map cold-start network calls to zero by architecting an offline-first React Native client that bundles 1.4MB of static geospatial data for 193 university lots, overlaying predictive capacity forecasts trained via Scikit-Learn.

PROJECTS

Seamless | Python, Snowflake, React, MCP, Playwright

- Architected a real-time media recommendation platform that synchronizes video playback state with backend data, achieving sub-50ms overlay rendering latency to deliver non-disruptive shoppable product integrations.
- Engineered a custom Model Context Protocol (MCP) server in Python to orchestrate 5 specialized shopping tools, utilizing Playwright for live scraping to process targeted e-commerce queries in under 2 seconds.
- Built a structured data ingestion pipeline that parses and loads 10,000+ complex JSON product mentions into Snowflake tables, enabling <100ms data retrieval during client-side video playback.
- Designed an in-memory caching and state management system to persist cart operations, eliminating 100% of redundant scraping operations for previously viewed items and reducing checkout state latency by over 60%.

Merlin | Next.js, FastAPI, Docker, PostgreSQL

- Improved reasoning accuracy by 40% by engineering a high-performance LLM proxy server implementing Monte Carlo Tree Search (MCTS) and Self-Consistency decoding.
- Architected a concurrent multi-model chat interface in Next.js, utilizing Server-Sent Events (SSE) to stream token-by-token reasoning steps from several different AI models simultaneously rather than relying on a single vendor.
- Reduced compute costs by 35% by building a dynamic orchestration layer that routes queries based on calculated token entropy and prompt complexity.

Real Estate Story | FastAPI, Supabase, React, ElevenLabs

- Architected a concurrent multi-agent orchestration layer (Kamaji) in FastAPI, asynchronously dispatching user queries across 6 specialized LLM microservices to synthesize real estate market analytics.
- Engineered a high-throughput geospatial data pipeline utilizing PostgreSQL (Supabase) and in-memory caching to process and serve localized pricing metrics from bulk Zillow and OpenStreetMap datasets.
- Achieved real-time client synchronization by implementing a WebSocket streaming architecture, delivering token-by-token agent reasoning and asynchronously generated ElevenLabs audio with sub-second latency.

TECHNICAL SKILLS

Languages: Python, Go, TypeScript/JavaScript, C/C++, Java, SQL, Bash

Frameworks & Libraries: FastAPI, React, Next.js, React Native, Node.js, SQLAlchemy, Scikit-learn, Pandas, Playwright

Databases & Cloud: PostgreSQL, Snowflake, Redis, Supabase, MySQL, PostGIS, AWS (EC2, S3), Firebase, Vercel

Tools & Infra: Docker, Kubernetes, GitHub Actions, Linux (Ubuntu), Pytest